

REMARKS

Claims 1-24 are currently active.

The application has been amended to claim priority from the provisional application from which it arose.

The claims have been amended. Antecedent support for the amendments to the claims in regard to the unknown traffic characteristics having no parameters specified, is found on page 1, line 19 of the specification of the above-identified patent application.

Formal drawings will be provided when the application is allowed.

The Examiner has objected to the abstract as being too long. Applicants have amended the abstract to be within 150 words in length.

The Examiner has rejected Claims 1-24 as being unpatentable over Asano in view of Ganmukhi. Applicants respectfully traverse this rejection.

Referring to Asano, there is disclosed a system for writing a UBR connection. Asano teaches an ATM cell input from an input port is switched by a switch fabric 301, and then output to each of the output ports via each of port cell buffers 302. A table storage 304 referenced by a call control processor 303 stores the routing table in a VPG table. If an exchange receives a UBR connection setting request as a setup message from a user, or if the exchange receives a UBR connection release request as a release message from a user, a table search engine 401 determines/releases the route of the UBR connection by referencing each of the tables and the table storage 304. The connection acceptance controlling unit 405 transmits the setup message to the corresponding outgoing port based on the route determined/released by the table search engine 401, and updates the number of already-set UBRs in the VPG table and the table storage 304. An outgoing buffer managing engine 402 monitors the use rate of each of the port cell buffers 302. If the output buffer managing engine 402 detects a congested state in any of the port cell buffers, it reflects the state on the VPG table in the table storage 304. A fault monitoring engine 403 monitors the state of each of the ports. If the fault mounting engine 403 detects a fault state in any of the ports, it reflects the state on the VPG table in the table storage 304. See column 4, lines 25-60.

Asano teaches that upon receiving the UBR connection setting request from a terminal accommodated in the exchange or from an exchange located at a preceding stage, the table search engine 401 in the exchange collates a destination address contained in the request

with the address prefixes registered in the respective entries of the routing table which the table storage 304 in the exchange possesses. Thus, the exchange determines the outgoing VPG corresponding to the entry which bears the most detailed one of the address prefixes contained in the destination address. See column 5, lines 36-48.

Upon receiving the UBR connection release request from a terminal accommodated in the exchange or from an exchange located at a preceding stage, the table search engine 401 in the exchange releases the UBR connection corresponding to the request. The VPI/VCI is released, and the UBR connection releasing request is delivered to the outgoing port to which the connection corresponding to the request belongs. Subsequently, the connection acceptance controlling unit 405 in the exchange subtracts 1 from the value of the number of already-set UBR connections stored in correspondence with the outgoing port to which the connection corresponding to the UBR connection releasing request belongs, within the VPG table possessed by the exchange. See column 6, line 66-column 7, line 5. As a result of the foregoing control processes described, efficient load distribution and utilization of connection resources in the network are improved in the case of routing the UBR connection to the ATM network which is based on the protocol IISP. See column 7, lines 5-12.

As is clear from the above description, and as the Examiner recognizes, Asano does not teach or suggest the limitation of "said traffic having unknown characteristics with no

parameters specified including traffic with weighted priorities and traffic without weighted priorities" as found in the claims.

Referring to Ganmukhi, there is disclosed a hierarchical packet scheduling method and apparatus. Ganmukhi teaches a scheduler which can handle the QoS requirements of different sessions fairly and efficiently. See column 2, lines 33-36. Ganmukhi teaches their existence six QoS traffic classes on ATM networks. Two of the six, Ganmukhi teaches are unspecified bit rate + and, unspecified bit rate (UBR). Ganmukhi teaches that sessions of the UBR + class 23 are similar to those of the ABR class 18 but they do not involve network flow control. Ganmukhi teaches that ABR class 18 has associated with it a guaranteed minimum throughput or a minimum cell rate. In addition, ABR sources adjust their transmission rates from time to time as required by a standard flow control algorithm. See column 4, lines 35-44. Ganmukhi further teaches that the UBR Class 24 of sessions to not have any specific loss, delay, or throughput requirements. See column 4, lines 44 and 46. Thus, it is clear from the teachings of Ganmukhi that only the UBR class 24 involve connections having unknown traffic characteristics with no parameters specified. The UBR + class 23 that Ganmukhi teaches has a guaranteed minimum throughput or minimum cell rates, which thus has parameters specified. Furthermore, Ganmukhi clearly teaches that the UBR + class is a totally different QoS, one of six, than the UBR quality service class. Thus, while UBR + class of QoS and UBR class of QoS share the term UBR, they are in fact distinct from each other and different QoS classes.

The Examiner submits that the combination of Asano in view of Ganmukhi arrives at applicants' claimed invention. Applicants respectfully disagree. Neither Ganmukhi nor Asano teach or suggest to provide any type of weighting for connections having unknown traffic characteristics with no parameters specified. Applicants have amended the claims to more clearly distinguish the claimed invention from the applied art of record. The closest that Ganmukhi comes is two different QoS classes, where one is called UBR + and another is called UBR. However, Ganmukhi makes it very clear that the UBR + QoS class has parameters and is a distinct class from the UBR class that is taught to have no parameters specified with unknown tariff traffic characteristics.

Furthermore, as patent law dictates, the Examiner cannot take teachings out of the context in which they are found in the references. Asano is completely silent regarding this limitation, and Ganmukhi in the context as it is found, teaches only that there are six distinct QoS classes and again is totally silent about providing weighted priorities to traffic of connections having unknown traffic characteristics with no parameters specified. Accordingly, applicants' claims are patentable over Asano in view of Ganmukhi.

Additionally, applicants would like to make the point that the references of Ganmukhi and Asano cannot be combined. Besides the Examiner not being able to take teachings out of the context in which they are found, the Examiner cannot pick and choose

elements from the different prior art references, and having found them, conclude that the applicants' claimed invention is arrived at, without there being teachings in the references themselves to combine them. Neither Ganmukhi nor Asano have any teachings or suggestions that would cause one skilled in the art to look to either of these references, without the knowledge or hindsight afforded from reviewing applicants' specification and claimed invention, and arrive at applicants' claimed invention. Asano is concerned with routing a UBR connection so that there is effective load distribution and utilization of resources. Ganmukhi is concerned with a scheduler that can be implemented in a cost-effective manner and handle the QoS requirements of different sessions fairly and efficiently. There is no teaching in either of these references for a need that the other somehow meets or a reason to cause them to be combined. In fact, applicants are at somewhat of a loss as to how they would be combined. The architectures of the systems themselves are all very different, and the elements identified in either of these references are very different, and used for different purposes. The Examiner seems to be ignoring all these details, and again, the context in which the various teachings are found, and simply saying that since Asano teaches a technique for handling UBR, and Ganmukhi happens to identify two different UBR QoS classes, (forgetting about the fact that there are actually six different QoS classes taught by Ganmukhi, and they are manipulated by the architecture in a very specific way that is distinct from the operation of the architecture of Asano), it is obvious to combine the various teachings as the examiner interprets them. Even though from an engineering standpoint, it would require

significant research and design effort to try to figure out how such a system would be formed and operate. For this reason too, applicants' claims are patentable over the applied art of record.

In view of the foregoing amendments and remarks, it is respectfully requested that the outstanding rejections and objections to this application be reconsidered and withdrawn, and Claims 1-24, now in this application be allowed.

CERTIFICATE OF MAILING

I hereby certify that the correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on 11/8/02

Ansel M. Schwartz
Ansel M. Schwartz
Registration No. 30,587
11/8/02
Date

Respectfully submitted,

HYONG S. KIM, ET AL.

By Ansel M. Schwartz

Ansel M. Schwartz, Esquire

Reg. No. 30,587

One Sterling Plaza

201 N. Craig Street

Suite 304

Pittsburgh, PA 15213

(412) 621-9222

Attorney for Applicants

Version with markings to show changes made to the Abstract

IN THE ABSTRACT OF THE DISCLOSURE:

An ATM communication system. The system includes a source which produces traffic for connections having known traffic characteristics and unknown traffic characteristics. The traffic has unknown characteristics including traffic with weighted priorities and traffic without weighted priorities. The system includes a network on which traffic travels. The source is connected to the network. The source sends the traffic having known traffic characteristics and unknown traffic characteristics onto the network. The system includes a destination which is connected to the network and receives the traffic having known traffic characteristics and unknown traffic characteristics. A source for producing ATM traffic for a network with switches. [The source includes a mechanism which produces traffic for connections having unknown traffic characteristics. The traffic includes traffic with weighted priorities and traffic without weighted priorities. The source includes a mechanism for transmitting the traffic to the network.] A switch for switching traffic on an ATM network from a source to a destination. [The switch includes a mechanism for receiving traffic for connections having unknown traffic characteristics. The traffic includes traffic with weighted priorities and traffic without weighted priorities. The switch includes a mechanism for transmitting the traffic for connections to the network. The transmitting mechanism is connected to the receiving mechanism. The switch includes a scheduler for scheduling when the connections having traffic with unknown characteristics having weighted priorities are to be transmitted to the network. The scheduler is connected to the transmitting mechanism and the receiving mechanism.] A method for transferring traffic in an ATM communication system. [The method includes the steps of transmitting from a source traffic of a connection having unknown traffic characteristics with a weighted priority onto an ATM network. Then there is the step of transmitting from the source traffic of another connection having unknown traffic characteristics without a weighted priority onto the ATM network.]

Version with markings to show changes made to the claims

1. An ATM communication system comprising:

a source which produces traffic for connections having known traffic characteristics and unknown traffic characteristics with no parameters specified, said traffic having unknown characteristics including traffic with weighted priorities and traffic without weighted priorities;

a network on which traffic travels, said source connected to said network, said source sends said traffic having known traffic characteristics and unknown traffic characteristics with no parameters specified onto the network; and

a destination which is connected to the network and receives the traffic having known traffic characteristics and unknown traffic characteristics with no parameters specified.

3. A source for producing ATM traffic for a network with switches comprising:

a mechanism which produces traffic for connections having unknown traffic characteristics with no parameters specified, said traffic including traffic with weighted priorities and traffic without weighted priorities; and

a mechanism for transmitting the traffic to the network.

12. A switch for switching traffic on an ATM network from a source to a destination comprising:

a mechanism for receiving traffic for connections having unknown traffic characteristics with no parameters specified, said traffic including traffic with weighted priorities and traffic without weighted priorities;

a mechanism for transmitting the traffic for connections to the network, said transmitting mechanism connected to the receiving mechanism; and

a scheduler for scheduling when the connections having traffic with unknown characteristics having weighted priorities are to be transmitted to the network, said scheduler connected to the transmitting mechanism and the receiving mechanism.

18. A method for transferring traffic in an ATM communication system comprising the steps of:

transmitting from a source traffic of a connection having unknown traffic characteristics with no parameters specified with a weighted priority onto an ATM network; and

transmitting from the source traffic of another connection having unknown traffic characteristics with no parameters specified without a weighted priority onto the ATM network.